UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>02/27/2006</u>.
2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-19</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-19</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>24 January 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All   b)☐ Some * c)☐ None of:
      1.☒ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>01/15/2004, 02/27/2006</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application
6)☐ Other: _____ .

Response to Amendment

1.   *Applicant's amendment field on December 26, 2007 has been entered. Claims 1, 4, 6-9, and 14-19 have been amended. Claims 1-19 are still pending, with claims 1, 6, 7, 9, 14 and 15 being an independent.*

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   *Claims 7 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Chui et al., Chui (U.S. Patent number 6, 041, 143).*

Regarding claims 7 and 15, *Chui discloses* a method and a device of decoding encoded data, the encoded data *(see column 3, lines 65-67)* comprising a plurality of predefined resolutions *(see abstract, line 1, i.e., Plurality referred as to multiple and see column 10, lines 1-2)*, comprising the steps of

selecting an intermediate resolution between a first predefined resolution and a second predefined resolution , the second resolution being higher than the first predefined resolution, the intermediate resolution being different from the first predefined resolution and the second predefined resolution *(see column 2, lines 31-39, thumbnail images referred to the first predefined resolution, mid-level resolution images referred to the intermediate resolution and high resolution images referred to second*

predefined resolution, therefore, it is clear that the intermediate resolution is between

the first predefined and second predefined resolution);

determining a quantity of encoded data of the second resolution depending on the

intermediate resolution *(see column 8, line 17-column 9, line 11, referring fig.9, using*

either the thumbnail resolution image, a mid-level resolution image or even the highest

resolution level image for viewing (or printing or other processing) at any user specified

resolution level), decoding the determined quantity of encoded data *(see item 122, 124,*

126, 136, 138, 142,144 and 150, fig.3 and column 3, lines 66-67);

and sub sampling the decoded data *(see column 5, line 2 and 14, column 9, lines 42-*

43 and column 13, lines 13-14) from the second resolution to the intermediate

resolution.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   *Claims 1-6, 8-14 and 16-19 are rejected under 35 U.S.C. 103(a) as being*

unpatentable over Chui, as applied to claims 7 and 15, above and in view of Spiegel et

al., Spiegel (U.S. Patent number 5, 615, 282A).

Regarding claims 1 and 9, *Chui discloses* a method and a device of decoding an

encoded digital image, the encoded data of the image *(see item 122, 124, 126, 136,*

138, 142,144 and 150, fig.3 and column 3, lines 66-67) comprising a plurality of

predefined resolutions *(see abstract, line 1, i.e., Plurality referred as to multiple and see column 10, lines 1-2),* comprising the steps of selecting a resolution lower than the highest of the predefined resolutions *(see column 10, lines 9-10, 17-18, 47-50, i.e., highest of the predefined resolutions referred as to full resolutions)* and different from each of the predefined resolution *(see column 10, lines 48-51, the second image data structure when an image resolution level lower than full resolution is selected and operate on the first image data structure when a full image resolution is selected)*; determining the predefined resolution immediately above the selected resolution *(see column 10, lines 48-51, the second image data structure when an image resolution level lower than full resolution is selected and operate on the first image data structure when a full image resolution is selected);* determining a quantity of data of the determined predefined resolution decoding the image at the determined predefined resolution, as a function of the determined quantity of data *(see column 6, lines 53-56, the amount of data included in the thumbnail data 94 may be determined , in various embodiments, such as by including in the thumbnail data only as much data as will fit in a predetermined fraction of the storage space required for the full image data)* ; sub sampling the decoded image *(see column 5, line 2 and 14, column 9, lines 42-43 and column 13, lines 13-14).*

Chui does not disclose a function of the ratio between the selected resolution and the determined predefined resolution.

However, Spiegel discloses a function of the ratio *(see item 1402, fig.60, column 36, lines 51-54)* between the selected resolution and the determined predefined resolution.

It would have been obvious to someone of the ordinary skill in the art at the time when the invention was made to use Spiegel's a function of the ratio between the selected resolution and the determined predefined resolution in Chui's a method and a device of decoding an encoded digital image, the encoded data of the image because it will allow to maintain maximum image quality, the ratio of the old size to the new size is a very important consideration during resampling, *[Spiegel's, see column 2, lines 43-44]*.

Regarding claims 2 and 10, *Chui discloses* a decoding method and device according to claims 1 and 9, comprising the prior display of the image at a predefined initial resolution *(see column 7, lines 53-57 and column 8, lines 61-65)* and in that the selection of a resolution is an instruction for change of size of the image with respect to the predefined initial resolution *(see column 7, lines 51-57)*.

Regarding claims 3 and 11, *Chui discloses* a decoding method and device according to claims 1 and 10, the encoded data *(see column 3, lines 45-46)* comprising a plurality of layers within each predefined resolution *(column 5, lines 4-9 and column 6, lines 5-8)*, wherein the determination of a quantity of data is the determination of a number of layers of the determined predefined resolution *(see column 6, lines 53-54)*.

Regarding claims 4 and 12, *Chui discloses* a decoding method and device according to claims 1 and 9, wherein the determination of the quantity of data of the determined predefined resolution *(see column 6, lines 53-54).*

Chui does not disclose a function of the ratio between the number of pixels of the selected resolution and a number of pixels of the determined predefined resolution.

However, Spiegel discloses a function of the ratio *(see item 1402, fig.60, and column 36, lines 51-54)* between the number of pixels of the selected resolution and the number of pixels of the determined predefined resolution.

It would have been obvious to someone of the ordinary skill in the art at the time when the invention was made to use Spiegel's a function of the ratio between the selected resolution and the determined predefined resolution in Chui's a method and a device of decoding an encoded digital image, the encoded data of the image because it will allow to maintain maximum image quality, the ratio of the old size to the new size is a very important consideration during resampling, *[Spiegel's, see column 2, lines 43-44].*

Regarding claims 5 and 13, *Chui discloses* a decoding method and device according to claims 1 and 9, wherein the decoding of the image at the determined predefined resolution is furthermore carried out as a function of the data of the predefined resolutions lower than the selected resolution, if the determined predefined resolution is not the lowest for the image considered *(see column 1, lines 39-41 and column 7, lines 4-8, 31-33 and column 9, lines 37-39).*

Regarding claims 6 and 14, *Chui discloses* a method and a device of decoding

encoded data, the encoded data *(see item 122, 124, 126, 136, 138, 142,144 and 150,*

fig.3 and column 3, lines 66-67) comprising a plurality of predefined resolutions Rn *(see*

abstract, line 1, i.e., Plurality referred as to multiple and see column 10, lines 1-2),

comprising the steps of determining an intermediate resolution between a first

predefined resolution Ra and a second resolution Ra+1 *(thumbnail images referred first*

predefined image and mid-level image referred to the intermediate resolution and the

second predefined resolution referred to high resolution images, therefore, it is clear

that intermediate resolution is between first predefined and second predefined

resolution);

the intermediate resolution being different from the first predefined resolution Ra

and the second predefined resolution Ra +1 (*see column 10, lines 48-51, the second*

image data structure when an image resolution level lower than full resolution is

selected and operate on the first image data structure when a full image resolution is

selected); determining a quantity of encoded data of the second predefined resolution

corresponding to the intermediate resolution (see column 5, lines 29-35), decoding the

determined quantity of encoded data *(see column 3, lines 66-67),* the determined

quantity of encoded data includes encoded data *(see item 122, 124, 126, 136, 138,*

142,144 and 150, fig.3 and column 3, lines 66-67) corresponding to the first resolution

Ra, and a part of encoded data included in encoded data *(see item 122, 124, 126, 136,*

138, 142,144 and 150, fig.3 and column 3, lines 66-67) corresponding to the second

resolution Ra+1 but not included in the encoded data corresponding to the first

resolution Ra.

Chui does not disclose scaling the decoded image, as a function of the ratio

between the intermediate resolution and one of the predefined resolutions Rn.

However, *Spiegel discloses* scaling the decoded image (item 32, fig.5, column

36, lines 55-65), as a function of the ratio between the intermediate resolution and one

of the predefined resolutions Rn *(see item 1402, fig.60, column 36, lines 51-56 function*

of the ratio between the resolutions of the input CT data).

It would have been obvious to someone of the ordinary skill in the art at the time

when the invention was made to use Spiegel's a function of the ratio between the

selected resolution and the determined predefined resolution in Chui's a method and a

device of decoding an encoded digital image, the encoded data of the image because it

will allow to maintain maximum image quality, the ratio of the old size to the new size is

a very important consideration during resampling, *[Spiegel's, see column 2, lines 43-*

44].

Regarding claims 8 and 16, *Chui discloses* a decoding method and device

according to claims 7 and 15, wherein the determined quantity of encoded data *(see*

column 3, lines 65-67).

Chui does not disclose function of the ratio between the intermediate resolution

and the second predefined resolution.

However, Spiegel discloses function of the ratio between the intermediate

resolution and the second resolution *(see item 1402, fig.60, and column 36, lines 51-56*

function of the ratio between the resolutions of the input CT data).

It would have been obvious to someone of the ordinary skill in the art at the time

when the invention was made to use Spiegel's a function of the ratio between the

selected resolution and the determined predefined resolution in Chui's a method and a

device of decoding an encoded digital image, the encoded data of the image because it

will allow to maintain maximum image quality, the ratio of the old size to the new size is

a very important consideration during resampling, *[Spiegel's, see column 2, lines 43-*

44].

Regarding claim 17, *Chui discloses* a decoding device according to any one of

claims 9, 14 or 15, wherein the means for selecting *(see column 8, line 41),*

determining (see column 1, line 43, i.e., determining referred as to computation),

decoding (see item 122, 124, 126, 136, 138, 142,144 and 150, fig.3 and column 3, lines

66-67) and sub sampling *(see column 5, line 2 and 14, column 9, lines 42-43 and*

column 13, lines 13-14) are incorporated in a microprocessor, a read only memory *(see*

column 3, lines 14-25), comprising a program for processing the data, and a random

access memory comprising registers adapted to record variables modified during the

execution of the program *(see column 3, lines 15-60 and column 4, lines 1-15).*

Regarding claim 18, *Chui discloses* an apparatus for processing a digital image,

comprising means adapted to implement the method according to claim 1 *(see column*

3, lines 25-60 and column 4, lines 1-15 the computer environment in which the invention

operates and the wavelet or wavelet-like transformation used to convert raw images

data into the compressed image data that is stored in the image data structure).

Regarding claim 19, *Chui discloses* an apparatus for processing a digital image,

Comprising the device according to any one of claims 9 or 14 or 15 *(see column 3,*

lines 14-25 the system 100, includes central processing unit 102).

Response to Arguments

6.   Applicant's arguments field on December 26, 2007 have been respectfully

considered, but they are not persuasive. Regarding 35 U.S.C 102 rejection of the

claims 7 and 15 inventions, the applicant argued that with reference (Chui, USPN 6,

041, 143) does not disclose the claim inventions, the examiner disagreed because Chui

discloses (1) selecting an intermediate resolution between a first predefined resolution

and a second predefined resolution, the second predefined resolution being higher than

the first predefined resolution, the intermediate resolution being different from the first

predefined resolution and the second predefined resolution *(se column 2, lines 31-39,*

thumbnail images referred to the first predefined resolution, mid-level resolution images

referred to the intermediate resolution and high resolution images referred to second

predefined resolution, therefore, it is clear that the intermediate resolution is between

the first predefined and second predefined resolution), and

   (2) determining a quantity of encoded data of the second resolution depending on the

intermediate resolution *(see column 8, line 17-column 9, line 11, referring fig.9, using*

either the thumbnail resolution image, a mid-level resolution image or even the highest

resolution level image for viewing (or printing or other processing) at any user specified

resolution level).

Regarding 35 U.S.C 103 rejection of the claims 1 and 9 invention, the applicant

argued that with the references (Chui, USPN 6, 041, 143 and Spiegel et al., USPN 5,

615, 282A) do not disclose the claim inventions, the examiner disagreed because Chui

discloses (1) selecting a resolution lower than the highest of the predefined resolutions

and different from each of the predefined resolutions *(see column 10, lines 48-51, the*

second image data structure when an image resolution level lower than full resolution is

selected and operate on the first image data structure when a full image resolution is

selected),

(2) determining the predefined resolution immediately above the selected resolution

(see column 10, lines 48-51, the second image data structure when an image resolution

level lower than full resolution is selected and operate on the first image data structure

when a full image resolution is selected), and

(3) determining a quantity of data of the determined predefined resolution as a function

of a ratio between the selected resolution and the determined predefined resolution *(see*

column 6, lines 53-56, the amount of data included in the thumbnail data 94 may be

determined, in various embodiments, such as by including in the thumbnail data only as

much data as will fit in a predetermined fraction of the storage space required for the full

image data). And also Spiegel discloses determining a quantity of data of the

determined predefined resolution as a function of a ratio between the selected

resolution and the determined predefined resolution *(see item 1402, fig.60, column 36, lines 51-54, the function of the ratio between the resolutions of the input CTdata).*

Conclusion

7.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aklilu k. Woldemariam whose telephone number is 571-270-3247. The examiner can normally be reached on Monday-Thursday 6:30 a.m-5:00 p.m EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on 571-272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

                                                    Samir Ahmed,
                                                    Examiner
                                                    Art Unit 2624

A.W.
02/29/08
/Samir A. Ahmed/
Supervisory Patent Examiner, Art Unit 2624